# Antecedents and Consequents of Post-Purchase Dissonance of Rooftop Solar Consumers

Synopsis

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**SECTION I:**

## Introduction:

Unsustainable lifestyle practices (E.g. using plastic products, chemical substances, personal transportation, high water and energy consumptions etc.) leads to rapid environmental degradation, like air pollution, water pollution, land pollution, ecology degradation etc. which ultimately affected human health and caused various diseases. There are several organizations, policy makers, environmental activists and scientists focusing their efforts on how to influence individual's behavior towards environment friendly choices to prevent environment form further degradation. In present world people are more aware and concern about environment, they are more willing to purchase green products to reduce environmental degradation but there is still a wide gap between their beliefs and actions. Several studies had done on attitude-behavior, which concluded that there is a dissonance among consumers towards green products (Roger Bennett, 2017; Bamburg, 2003; Joshi and Rahman, 2015; Hassan et al., 2016), and the causes of this dissonance among consumers and its effect on pro-environmental behavior needs more investigation.

Today the world is facing the catastrophic outcome of climate change and carbon emission is the leading cause of it. To combat this, countries had signed various agreements, the most recent one is the Paris Climate Change Agreement (2016), a legally binding international treaty on climate change, which aims to limit global warming to well below 2 degrees Celsius (preferably to 1.5 degrees) compare to pre-industrial level. India is a signatory to the Paris Agreement (2016) and pledge to become net-zero carbon emission country by 2070 at COP26, Glasgow, Scotland in 2021.

In 2008, The Government of India, has launched National Action Plan on Climate Change (NAPCC) with the objective of creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it. The target of installing 175 GW of renewable energy capacity by 2022 has been set by The Government of India, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power. As government has prioritized solar energy for that, during 2010-2011, The Government of India, has launched Jawaharlal Nehru National Solar Mission

(JNNSM) under the National Action Plan on Climate Change (NAPCC) to promote the growth of solar power in India and aims to establish India as global leader in solar energy and the updated targets are total 100GW of solar PV installations out of which 40GW will come in the form of the solar rooftop. Solar rooftop systems can be installed on roofs of residential houses, industries, commercial buildings etc. thus requiring no extra land for the power plant. It generates electricity by converting solar energy into electrical energy. Among various renewable forms of power generation, solar rooftop systems are one of the most suitable options for generation of power in India as availability of sun for most part of the year, no fuel cost, Proper utilization of rooftop space, clean source of power generation, low gestation period, reduction in power bills, reduced outages/power cuts leading (A.Sarin et al., 2018). Despite the efforts made by government, as per the report released by Ministry of New & Renewable Energy, only 6.5GW of solar rooftop installed capacity have been achieved till feb-2022, which is quite low compare to the target (40GW) set by the government.

Numerus researches are available answering the causes of low adoption rate of solar rooftop in India, which concludes high initial cost, long payback period, unavailability of financing schemes, and lack of awareness as the key barriers. Most of the researches has been done on people who either willing to switch to solar PV system or had not considered any such change but there is lack of research done on the person, who has already been using rooftop solar, who are having some experience with this technology. There is always confusion arising among the consumers with new technologies which influences their purchasing decisions (Hamza Khraim, 2020), hence, the proposed study has planned to conduct research on post purchase dissonance and its effects on pro-environmental behavior and purchase intentions of rooftop solar consumers. It is expected that the findings of the proposed research will have significant implications for green consumer marketers, policy makers, entrepreneurs and specially green energy sector.

## SECTION II

### 2.1. Need of the Study

The motivation for this paper comes from post-purchase dissonance model of green consumer (Hamza Khraim, 2020) and Consumers' behavioral intentions after experiencing deception (Wilkins, SJK, 2016). It states that consumers' satisfaction, loyalty, and future preferences are influenced by post-purchase

dissonance. It emphasizes that organization should devote their attention towards consumer knowledge of new technologies, its functional characteristics to increase consumers' familiarity with their product hence, build confidence in green products. There is a need for further validation of these models on other green products and its impact on environmental behavior.

In today's world generating electricity using solar PV system is the most suitable option to reduce greenhouse gas emission. In India electricity industry is the second most greenhouse gas emitter after transportation industry. The geographic location of India provides approximately 300 sunny days, which shows India's potential to produce electricity using solar energy. As per India's commitment to the world to become carbon neutral by 2070 and being the head of International Solar Alliance, it is necessary for policy makers and marketers to analyze the purchase behavior of RTS consumers to increase the adoption rate and to capitalize the opportunities in the solar energy industry in upcoming future. The increase in RTS consumer will be beneficial in mitigating the effects of climate change and for Indian economy.

**2.2. Objectives of the Study:**

1. To investigate the factors that influence the post purchase dissonance of rooftop solar consumers in India.

2. To investigate the impact of post purchase dissonance on behavioral consequences of rooftop solar consumer.

3. To make recommendations to relevant industries and policymakers based upon the finding of the study.

**2.3. Conceptual Framework:**

The conceptual framework of this study is based on the study of factors associated with consumers' post-purchase dissonance Hamza Khraim (2020). The conceptual framework of this study establishes the relationship between the antecedents of post-purchase dissonance of rooftop solar consumers-knowledge, perceived risk, functionality, and attitude with post-purchase dissonance through its consequents – Pro-environmental behaviour and Purchase intentions. It also establishes the direct relationship between the antecedents of post-purchase dissonance of rooftop solar consumers with pro-environmental behavioral consequents – motivation and intentions.

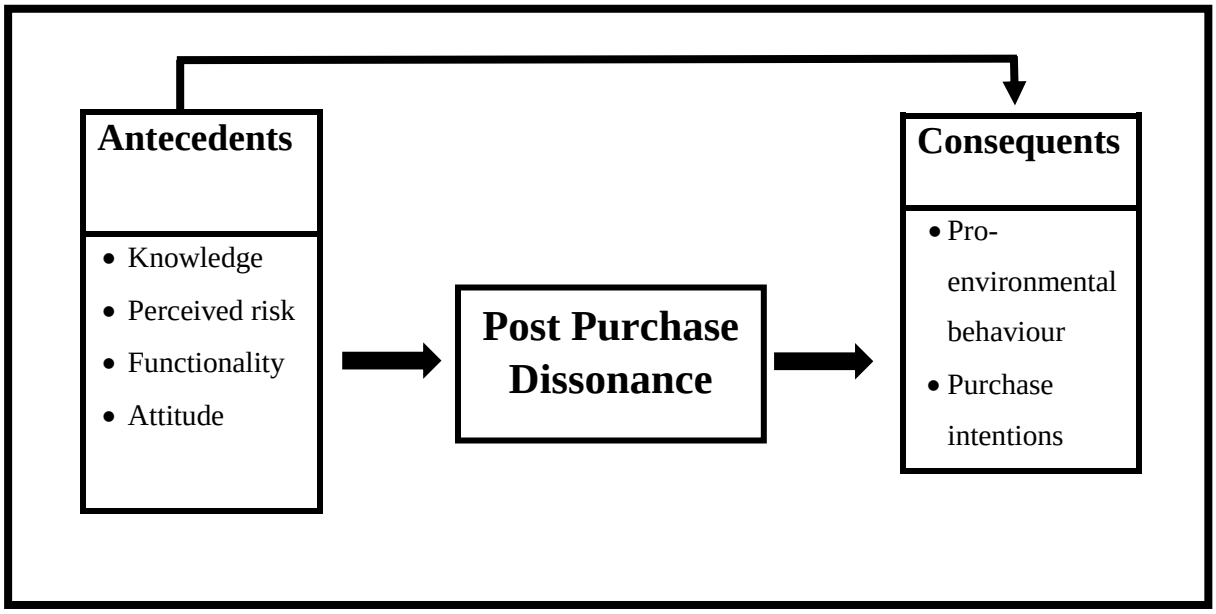


**Figure 1: Conceptual Framework of the Study (Source: Compiled by the researcher)**

**2.4. Definition of the Key Terms:**

**Post purchase dissonance-** Post-purchase dissonance defined as a state of mind that exists when consumers who have made recent purchases have doubts about the insight of their choice (Arthi & Mathi, 2016). It is a feel of frustration, regret of a consumer about their decision after purchase While (Yang et al., 2019).

**Functional characteristics-** Functional value of product or service is defined as "The perceived utility acquired from an alternative capacity for functional, utilitarian or physical performance" (Sheth et al., 1991). Sweeney and Soutar (2001) viewed functional characteristics as derived utility from the product due to the reduction of its cost.

**Perceived risk-** Perceived risk is defined as to the predictable negative usefulness and value that consumers relate to the purchase of any product or service (Dunn et al. 1986).

**Attitude-** An attitude is an individual's disposition to respond favorably or unfavorably to an object, person, institution, event, or any other discriminable aspect of the individual's world (Ajzen, 1991).

**Pro-environmental behaviour-** PEB is refers to act consciously to minimize the negative impact on the nature for example reduce wastage, lower the energy consumption etc. (Kollmuss and Agyeman 2002). Using organic substance, conservation of water and energy resources, switching towards public transports from personal vehicle, increasing recycling activities are considered as pro-environmental

behaviour for individuals (Heath and Gifford 2002; Jansson et al. 2010; Albayrak et al. 2011; Bhatt and Sharma 2012; Kim et al. 2012).

**Purchase intention-** Keaveney (1995), defines post-purchase intentions as the switching intention, means intention to stop product consumption or change in supplier or brand. Consumer loyalty, complaint and switching behaviour is influenced by consumers' post purchase intentions. Post purchase intention can be used as the indicator to predict long-term customers base and stable profits to the company (Chen and Chen, 2005).

**2.5. Proposed Research Questions:**

This proposed research aims to address following research questions:

1. What are the relevant factors that influence the post purchase dissonance of rooftop solar consumer?
2. At what extent these factors affect the post purchase dissonance?
3. How post purchase dissonance of rooftop solar consumers influences their purchase intention?
4. Is there any relationship between the antecedents and consequents of post purchase dissonance?

**2.6. Proposed Hypotheses:**

Based on an extensive review of the relevant literature, the researcher had some hunches which led to the following research/experimental hypotheses as tentative answers to the research questions stated above. These research hypotheses will be tested as an attempt to explore the possible relationships proposed in the conceptual framework of the study.

$H_1$: Knowledge affects post-purchase dissonance of rooftop consumer.

$H_2$: Perceived risk affects post-purchase dissonance of rooftop consumer.

$H_3$: Functional characteristics affects post-purchase dissonance of rooftop consumer.

$H_4$: Attitude towards rooftop solar affects post-purchase dissonance of rooftop consumer.

$H_5$: Post-purchase dissonance of rooftop solar consumers affects their pro-environmental behaviour.

$H_6$: Post-purchase dissonance of rooftop solar consumers affects their purchase intentions.

$H_7$: Post-purchase dissonance of rooftop solar consumers affects their recommendation intentions to others.

$H_8$: Knowledge affects consequents of rooftop solar consumers.

$H_{8a}$: Knowledge positively affects pro-environmental behavior of rooftop solar consumers.

$H_{8b}$: Knowledge positively affects purchase intentions of rooftop solar consumers.

$H_9$: Perceived risk affects consequents of rooftop solar consumers.

$H_{9a}$: Perceived risk positively affects pro-environmental behavior of rooftop solar consumers.

$H_{9b}$: Perceived risk positively affects purchase intentions of rooftop solar consumers.

$H_{10}$: Functional characteristics affects consequents of rooftop solar consumers.

$H_{10a}$: Functional characteristics positively affects pro-environmental behavior of rooftop solar consumers.

$H_{10b}$: Functional characteristics positively affects purchase intentions of rooftop solar consumers.

$H_{11}$: Attitude affects consequents of rooftop solar consumers.

$H_{11a}$: Attitude positively affects pro-environmental behavior of rooftop solar consumers.

$H_{11b}$: Attitude positively affects purchase intentions of rooftop solar consumers.

**SECTION III:**

**Review of Literature and Identification of Research Gaps**

## 1. Post purchase dissonance-

Post purchase dissonance is a state of mind where consumer feels discomfort due to inconsistency between expectations and reality after a purchase, and it influences an individual's behaviour to reduce the inconsistency and dissonance (Dickerson, Thibodeau, Aronson, & Miller, 1992; Ehrlich et al., 1957; Engel, 1963; Kassarjian & Cohen, 1965; O'Neill & Palmer, 2004). Lazim et al. (2020) and Arthi & Mathi, (2016) conceptualized post-purchase dissonance as an uncomfortable feeling of consumer after a purchase and having doubts about their prior action, belief and choices. While Yang et al. (2019) defined post-purchase dissonances as frustration and regretful feeling of a consumer about their decision after purchase.

There are several studies available on the negative consequences of post purchase dissonance and it concludes the increase in individual's dissatisfaction, switching purchase intensions and a significant decline in trust (Keng and Liao., 2009; Bolia et al., 2020) and that spread the negative word of mouth Yang et al. (2019). Sweeney et al. (1996) verified that there is a negative relation between post-purchase dissonance and satisfaction. There are some critical questions regarding the influencing factors of the post purchase dissonance that still needs to be explored.

Some studies have attempted to avoid or decrease the negative effects of post purchase dissonance by increasing consumer self-confidence and decreasing anxiety (Festinger, 1957; Keng & Liao, 2009; Liao & Chen, 2008; Soutar & Sweeney, 2003; Sweeney et al., 2000; Nandan, 2005; Szymanski & Henard, 2001). Bolia et al., (2020) suggested that reduction in the perception gap between the producer and consumer is essential to reduce the effects of post purchase dissonance. Marketing personals of companies should focus on to minimise consumers' perception of post purchase dissonance (Chadha et al., 2018).

## 2. Rooftop Solar-

Rooftop solar is a system that is built at the roof of either a residential or commercial building. Many systems can be installed to make rooftop solar energy, with one of them being the photovoltaic (PV) system (Hussein Mohammed Abualrejal, 2020). It generates electricity by using solar energy. There are two metering configurations available: one is gross metering and another is net metering (Ramakrishna Kappagantu et al. 2015). With gross-metering, the owner of rooftop PV system sells entire energy output generated to the utility grid directly and get benefited at the feed-in-tariff (FiT) rate and the customer receives electricity supply from the utility grid. (Hussein Mohammed Abualrejal, 2020; Tariq Umar, 2017; Chapman, Andrew J. 2016). With the net metering configuration, energy generated from solar PV system is firstly consumed by the PV system owner and if there is any extra power generated, it will be either store or sell to the utility (Kapil Narula, 2015; Tariq Umar, 2017; Hardik Pokhrel, 2019). Both the configurations have been implemented in India.

Two ownership options are available for rooftop solar PV installations: self-owned and third-party owned (leased). In the self-owned arrangement, the net power consumed – that is, the difference between the units of power imported from the grid and units exported to the grid from the solar PV system – is credited to the owner's account and may be used to offset (future) power imports from the grid. In a third-party owned, the owner of the rooftop leases the solar PV system from a third-party provider for a monthly rental fee. The rooftop owner uses power generated from the system while exporting any excess to the grid (Ramakrishna Kappagantu et al. 2015).

## 3. Antecedents of post purchase dissonance of rooftop solar consumers-

### 3.1. Knowledge-

During the purchase decision making process, the most decisive factor that affects consumer is consumers' product knowledge that creates change in buying behaviour (Chéron & Hayashi, 2011). According to Guo et al., (2018), it is necessary to enhance consumers' knowledge to reduce the chances of post-purchase dissonance. Knowledge base of new technology like rooftop solar, seems to have low among consumer even it has been introduced and promoted by governments for years due to the lower investment in awareness programs (Hussein Mohammed Abualrejal, Mohamad Ghozali Hassan, 2020). Most of the surveys have found that there has been incorrect knowledge the cost, features and incentives of green technology among the respondents (Axsen et al. 2017). Gobczyński and Leroux (2011) classified consumers based on innovativeness/knowledge level. They found that it become easy to convince those consumers who pursue high level of knowledge and innovativeness.

According to Soderlund & Gunnarsson, (2000) factors like quality level, performance expectations and its functional characteristics that determines the level of consumer satisfaction after consuming it, may be influence by product knowledge.

### 3.2. Perceived risk-

In marketing, sociology, and psychology research, perceived risk is a very well-known psychological concept and has a very dominant role. Dunn et al. (1986) defined perceived risk as to the predictable negative usefulness and value that consumers relate to the purchase of any product or service. Cognitive dissonance can cause perceived purchase risk when the consumer is a first time buyer and do not have enough information about the product. It is the feeling of uncertainty associated with the product that there will be a potential problem with the product after buying it. Perceived purchase risk can evolve due to many factors related to anything, such as the product functions, company, delivery, installation, post-purchase services, and product price and value (Joshi & Singh, 2017). The higher the problems that the customers think he will face when he purchases the product, the higher the tendency that this customer will regret buying this product. Therefore, as past literature indicates, that the perception of cognitive

dissonance will be the higher if the perceived purchase risks is higher (Sweeney & Soutar, 2006). Gan & Ding, (2014) asserted that proactive action from companies is required, before the purchase stage to minimize cognitive dissonance by enhancing and empowering the consumer decision-making and not to wait after the post-purchase stage and occurrence of dissonance to act.

### 3.3. Functional characteristics-

Functional value of product or service is defined as “The perceived utility acquired from an alternative capacity for functional, utilitarian or physical performance” (Sheth et al., 1991). Sweeney and Soutar (2001) viewed functional characteristics as derived utility from the product due to the reduction of its cost. Green energy product provides energy benefits which are similar to the benefits offered by conventional energy products, for example reduced electricity bills (Ibanez et al., 2006), it is offering pollution free energy and reduction in harmful waste generation for long period of time (Prakash, 2002). Clark et al. (2003) found that in U.S.A. green energy consumers perceived that environment friendly and reduction in dependence in crude oil imports as major functional benefits of green energy. It concludes that functional characteristic is one of the key aspect of green energy product.

### 3.4. Attitude-

Attitude is a fundamental factor that has a great influence on customer behaviour. It plays an important role in promoting the development of a product (Galan Ladero, Galera Casquet, 2015). According to Wilkie and Pessemier (1973), the word "attitude" originated from the Latin term of mental or bodily belief. In general, attitudes of people relate to their actions or activity categories. (Hawkins et al. (2007) believed that attitude is a situation of motivation, emotion, perception, and cognition, which connects to several views on the environment. Thus, attitudes are affected by stimulation from the environment; for example, how the seller communicates to supply products to the buyers. According to Solomon (2002), an attitude object is anything that people make a decision about or have a good or bad feeling about. In terms of consumer-oriented attitude definition, the term objects are defined largely as consisting of special concepts of marketing relationships or consumption; for instance, price, advertisement, quality of product, product use, physical proof, retailer and service staff.

Individual's concern for the environment is a fundamental to environmental research (Hines et al., 1987). According to Dunlap and Van Liere (1978), environmental concern is defined as a global attitude with indirect effects on behavior through behavioral intention. Crosby, Gill and Taylor (1981) mentioned that environmental concern is a strong attitude towards preserving the environment. Attitudes are defined as the enduring positive or negative feeling about some person, object, or issue. In fact, it refers to the information a person has about a person, object, or issue (Newhouse, 1991). The social psychology literature on behavioral research has established attitudes as important predictors of behavior, behavioral intention, and explanatory factors of variants in individual behavior (Kotchen & Reiling, 2000). In many studies both these factors have been found to be important/significant predictors of consumer pro-environmental behavior. For example, an individual's concern level as to environmental issues has been found to be a useful predictor of environmentally conscious behavior, i.e. recycling behavior (Arbuthnot and Ligg, 1975; Kellgren and Wood, 1986; Simmons and Widman, 1990) and green buying behavior (Chan, 1996; Donation and Fitzgerald, 1992; Kerr, 1990; Ottman, 1992; Schlossberg, 1992). Kim and Choi (2005) found that attitude towards environmental concern directly influences green buying behavior. Similarly, many studies have specifically focused on the relationship between environmental attitudes and environmentally related behaviors. Consumer attitudes have also been used in past studies to predict energy conservation and ecologically conscious purchase and use of products (Mostafa, 2009). In a study conducted in Germany, Balderjahn (1988) found that a positive attitude toward ecologically conscious living resulted in ecologically responsible buying and using of products, including the use of automobiles. Beckford et al. (2010) and Cornelissen et al. (2008) also found in their studies that environmental attitude has a significant impact on consumer environmental/green purchasing behavior. Mostafa (2009) found that both environmental concern and attitude have significant positive effect on the consumers' intention to buy green products.

## 4. Consequences of post purchase dissonance

### 4.1. Pro-environmental behaviour –

PEB is refers to act consciously to minimize the negative impact on the nature for example reduce wastage, lower the energy consumption etc. (Kollmuss and Agyeman 2002). According to Steg & Vlek,

(2009) “behavior that benefits the environment or harms the environment as little as possible”. Using organic substance, conservation of water and energy resources, switching towards public transports from personal vehicle, increasing recycling activities are considered as pro-environmental behaviour for individuals (Heath and Gifford 2002; Jansson et al. 2010; Albayrak et al. 2011; Bhatt and Sharma 2012; Kim et al. 2012). Hidalgo, Hernandez, Lambistos, and Pisano (2011) in their theoretical multidimensional conception of PEB have classified PEBs on the basis of involvement (low vs high), savings potential and preventing environmental damage versus conserving natural-resources. The motivational factors of PEB that influence the action of individuals have been under investigation for long time (Soyez 2012; Guagnano et al.1995; Stern et al. 1993, Steg and Vlek2009; Trivedietal.2015; Leeuw etal.2015). And to find the environment friendly solutions, there is a need to develop the understanding about why is PEB necessary for an individual (Clark et al. 2003).

There are two major school of thoughts, economists and psychologists, of individual’s pro-environmental behaviour. Economists studies were based on carrot and stick philosophy, they suggested solutions to environmental problems on reward or penalty basis, they examined external factors to influence individual behaviour, whereas psychologists suggested awareness, education, and persuasion as a tool for behavioural change (Clark et al. 2003). While Van Liere and Dunlap (1980) used cognitive variables and demographic variables as well in their research. Ahmad and Juhdi (2008) notified that the most influential factors that affect consumers’ pro-environmental behavior are perception on green products, awareness on government incentives, beliefs about usage safety of product, belief about product’s eco-friendliness, availability of product and product knowledge.

### 4.2. Purchase Intention-

Keaveney (1995), defines post-purchase intentions as the switching intention, means intention to stop product consumption or change in supplier or brand. Consumer loyalty, complaint and switching behaviour is influenced by consumers’ post purchase intentions. Post purchase intention can be used as the indicator to predict long-term customers base and stable profits to the company

(Chen and Chen, 2005). The best way to increase consumer satisfaction is to reduce consumer complaint (Fornell et al., 1996). The purpose of complaint is to seek indemnity, inform about problems and boycott

actions. According to Zeithmal et al. (1996), Post purchase intention include customer's re-purchase intention and their recommendation to others. Intentions are typically used to predict the sales of existing products over time, as they are assumed to be good indicators of consumers' purchasing behavior (Sun and Morwitz, 2010; Arts et al., 2011).

With reference to the intention to buy and use green products, scholars have looked at the role of emotions, beliefs and values, considering the individual motivations behind pro environmental attitudes (Barr et al., 2001; Gardner and Stern, 2002; Jansson et al. 2010; Oliver and Rosen, 2010). The creation of ad hoc fiscal incentives for green products represents a relevant factor affecting the purchase decision to buy a green product, as well as government information and advertising campaigns (Diamond, 2009; Driscoll et al., 2013; Sierzchula et al., 2014). However, some argue that, in the context of environmental goods, receiving financial incentives might crowd out pro-environmental behaviours (Thørgersen, 2003). In the context of rooftop solar, People with a high level of awareness of smart grid rooftop solar power are more likely to pay to install such a system, but government incentives and household attitudes are also important factors to consider that influence the intention to instal (Tran Thi Lan, Sopin Jirakiattikul, 2021). Although a substantial body of research supports the causal link between consumer dissatisfaction and negative post purchase behaviours (Bearden and Teel, 1983; Day and Landon, 1976), the effect of cognitive dissonance on consumers' post purchase intentions has received less attention.

**Identified research Gap-**

Most of the existing literature on post purchase dissonance draws upon cognitive dissonance theory (Festinger (1957) and the theory of planned behaviour (Ajzen 1991) to explain its antecedents and consequences. A much smaller body of research has explored the influencing variables of post purchase dissonance of green consumers.

Following are unexplored research issues around the theme:

1. There are very limited studies have been done which focuses on the experiences and necessities of existing green consumers in India. Such studies will provide the necessary fillip to the development of pro-environmental behaviour.

2. The literature provides only a limited evidence for the linkages between post purchase dissonance and pro-environmental behaviour. The literature also provides only a conceptual level discussion of how these variables in turn affect purchase intentions of green consumer. There is a need to empirically validate the same.

## SECTION IV

### 4.1. Scope of the Study

For the purpose of this study i.e. to explore the RTS consumer's post purchase experience, Agra district in Utter Pradesh is identified as the survey area due to availability and accessibility of sample unit.

### 4.2. Instruments/ Techniques to be used

The proposed study will be based on multi-methods, structured questionnaire/schedule-based survey, structured interviews (face-to-face, online and telephonic) and case study method will be used for primary data collection. Questionnaire survey will be used with appropriately developed scales to obtain quantitative information. And open-ended questions can be asked to the respondent for qualitative information. For unexplored variables an inventory will be develop by the researcher.

### 4.3. Statistical Measurements

Relevant statistical measurements like Cronbach's Alpha (CRA), construct reliability (CR) and average variance extracted (AVE) for reliability, ANOVA, structural equation model (SEM) for Correlation, and Regression Analysis etc. will be used.

### 4.4. Sampling

#### 4.4.1. Sample composition

Institutional consumers like education institutes, hospitals, and other commercial buildings etc. will be contacted for data collection through structured questionnaire (for quantitative analysis) and in-depth interview (for quantitative analysis). Local household residents will be taken on the basis of numbers of years experienced with RTS system to compare its performance with time. Sample will be drawn from Agra district, U.P.

#### 4.4.2. Sampling Techniques

Convenience and snowball sampling techniques will be used for the purpose of the study.

### 4.4.3. Sample Size Formula for finite Population-

As per the scope of the proposed study in Agra district, the number of solar rooftop consumers are approximately 2000, which is considered as finite population. And the following sample size formula for finite population is used to arrive at a representative number of respondents (Yamane, 1967).

$$\mathbf{n = N/\{1+N(e)^2\}}$$

Where:

n = Sample Size for finite population

N = Population size

e = Sampling error (level of precision)

In order to minimize the bias and obtain realistic sample size, sample size is evaluated as- 95% confidence level, population proportion (P) = .5 and ±5% level of precision is assumed

**Table 1: Computation of Sample Size**

| Population Size | Population proportion | Level of precision | Sample size calculation | Sample size |
|---|---|---|---|---|
| 2000 | 50% | 0.05 | $2000/\{1+2000(.05)^2\}$ | 333 |
| **Estimated sample size = 333** | | | | |

Through the above sample formula, the sample size is 333. However, it is to be noted that this large sample size may have high non sampling error. Therefore, to counter balance, the proposed sample size for the study will be 270. This is also aligned with sampling in corresponding studies that are of similar nature.

### 4.4.4. Significance (Implications) of the Proposed Study

**Contribution to Existing Literature**

The proposed research will empirically investigate consumers' post purchase experience with new and emerging green technologies, which is not adequately explored. Further to this, the relationship between demographic profile of a consumer and factors like knowledge, perceived risk, functionalities and attitude towards green technologies, which influence the level of satisfaction has not been examined before. The proposed research will also comparatively investigate the organizational adopters as well as individual adopters of RTS. This study will give the insights of consumers experience with green technologies with high initial investment, and will be a contribution to existing literature.

**Implications for Entrepreneurs-**

The proposed research will try to explore the rooftop solar industry with consumers' perspective this will be helpful for current market players as well as entrepreneurs to identify untapped opportunistic areas for growth and innovations in green energy sector. By understanding the factors which influence green consumers, marketers will be able to guide themselves for appropriate response plan to harvest the potential market.

**Implications for Policy Makers-**

As per the country's mission to become carbon neutral and an ambition to become world's leader in solar energy sector, country's policy makers should not just focus on potential adopters and non-adopters of rooftop solar but also on the existing consumers as word of mouth is more effective than any other advertising strategies in influencing the purchase decision.

**Implications for Society-**

This study aims to encourage government and corporates to consider consumers' views into account on green energy product and to fill the gaps in such technologies available in markets. This will encourage individuals to switch into solar PV systems and invest more on green energy products and will increase the access to energy. Ultimately growth in this sector will create new job opportunities and it will contribute to the growth of our society and our country as well.

**Implications for Environment-**

There will be huge implications of the proposed research on environment as it will promote and motivate the sustainable development goals. Thermal power plants are not just emitting carbon it also pollutes water and soil as compare to solar energy, traditional way of generating electricity is depleting our environment way more than its saves cost. Being a green source of energy, more and more use of rooftop solar system will provide clean energy and reduce carbon footprints.

**Section – V**

**PROPOSED CHAPTERIZATION**

**The thesis will contain the following chapters:**

Chapter 1 – Introduction

Chapter 2 – Review of Literature

Chapter 3 – Conceptual Framework, Research Design and Methodology

Chapter 4 –Data Collection and Analysis

Chapter 5 – Results and Interpretations

Chapter 6 – Conclusions, Managerial Implications and Direction for Future Research

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**SECTION VI**

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